



Competitive Enterprise Institute

1001 Connecticut Ave NW • Suite 1250 • Washington, DC 20036

202.331.1010 • www.cei.org

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Al Gore's *An Inconvenient Truth* **One-sided, Misleading, Exaggerated, Speculative, Wrong**

By Marlo Lewis, Jr.¹

An Inconvenient Truth (AIT), former Vice President Al Gore's book on "The planetary emergency of global warming and what can be done about it," purports to be a non-partisan, non-ideological exposition of climate science and moral common sense. In reality, *An Inconvenient Truth* is a colorfully illustrated lawyer's brief for global warming alarmism and energy rationing. It is a *J'Accuse* hurled at fossil fuel energy-based civilization, especially the United States, and above all the Bush Administration and its purported allies in the U.S. oil and auto industries.

We do not expect lawyers to argue both for and against their clients, nor do we expect "balance" from political party leaders. However, although Gore reminds us—in the film version of *An Inconvenient Truth*—that he "used to be the next President of the United States," and concludes both the book and the movie with a call for "political action," he presents AIT as the work of a long-time student of climate science, a product of meditation on "what matters." He asks his audience to expect more from him than the mere cleverness that can sway juries or win elections.

What we get instead is sophistry. In AIT, the only facts and studies considered are those convenient to Gore's scare-them-green agenda—and in many instances, Gore distorts the evidence he presents.

Nearly every significant statement Gore makes regarding climate science and climate policy is either one sided, misleading, exaggerated, speculative, or just plain wrong. The present OnPoint summarizes my findings. *An Inconvenient Truth* does the following:

¹ Marlo Lewis is a Senior Fellow in Environmental Policy at the Competitive Enterprise Institute. This OnPoint is adapted from the author's *A Skeptic's Guide to An Inconvenient Truth*, available at <http://www.cei.org>.

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One-Sided

- Never acknowledges the indispensable role of fossil fuels in alleviating hunger and poverty, extending human life spans, and democratizing consumer goods, literacy, leisure, and personal mobility.
- Never acknowledges the environmental, health, and economic benefits of climatic warmth and the ongoing rise in the air's carbon dioxide (CO₂) content.
- Never acknowledges the major role of natural variability in shrinking the snows of Kilimanjaro and other mountain glaciers.
- Never mentions the 1976 regime shift in the Pacific Decadal Oscillation, a natural ocean cycle, which is a major cause of recent climate change in Alaska.
- Presents a graph tracking CO₂ levels and global temperatures during the past 650,000 years, but never mentions the most significant point: Global temperatures were warmer than the present during each of the past four interglacial periods, even though CO₂ levels were lower.
- Never confronts a key implication of its assumption that climate is highly sensitive to CO₂ emissions—that absent said emissions, global climate would be rapidly deteriorating into another ice age.
- Neglects to mention that, due to the growth of urban heat islands, U.S. cities and towns will continually break temperature records, with or without help from global warming.
- Neglects to mention that global warming could reduce the severity of winter storms—also called frontal storms because their energy comes from colliding air masses (fronts)—by decreasing the temperature differential between colliding air masses.
- Highlights London's construction of the Thames River flood barrier as evidence of global warming-induced sea-level rise, but does not mention that London is sinking two to six times faster than global sea levels are rising.
- Ignores the large role of natural variability in Arctic climate, never mentioning either that Arctic temperatures during the 1930s equaled or exceeded those of the late 20th century, or that the Arctic during the early- to mid-Holocene was significantly warmer than it is today.
- Cites a study that found that the number of recorded wildfires in North America has increased in recent decades, but not the same study's finding that the total area burned decreased by 90 percent since the 1930s.
- Fosters the impression that global warming can only be good for bad things (algae, ticks) and bad for good things (polar bears, migratory birds)—depicting nature as a morality play.
- Cites a study by Isabella Velicogna and John Wahr, of the University of Colorado, that found an overall loss in Antarctic ice mass during 2002-2005, but ignores a study by University of Missouri professor Curt Davis and colleagues that found an overall ice mass gain during 1992-2003. Three years worth of data is too short to tell anything about a trend in a system as vast and complex as Antarctica.
- Cites a recent study by John Turner of the British Antarctic Survey that found a 0.5° Celsius (C) to 0.7°C per decade wintertime warming trend in the mid-troposphere above Antarctica, as measured by weather balloons, but fails to

mention that the same study found much less warming—about 0.15°C per decade—at the Antarctic surface, or that NASA satellites, which also measure troposphere temperatures, show an Antarctic *cooling* trend of 0.12°C per decade since November 1978.

- Misanthropically sees “success” not in the fossil fuel energy-based civilization that has enabled mankind to increase its numbers more than six-fold since the dawn of the industrial revolution, but in the recent reduction of global population growth rates.
- Compares Haiti—which suffers from deforestation—unfavorably with neighboring Dominican Republic—which enjoys lush forest cover—to illustrate the impact of politics on the environment, but ignores another key implication of the comparison: Poverty is the environment’s number one enemy.
- Notes that “much forest destruction” and “almost 30%” of annual CO₂ emissions come from “the burning of brushland for subsistence agriculture and wood fires used for cooking,” but never considers whether fossil fuel energy restrictions would set back developing countries both economically and environmentally, by leading to more such burning.
- Neglects to mention the circumstances that make it reasonable rather than blameworthy for America to be the biggest CO₂ emitter: the world’s largest economy, high per capita incomes, abundant energy resources, markets integrated across continental distances, and the world’s most mobile population.
- Impugns the motives of so-called global warming skeptics but never acknowledges the special-interest motivations of those whose research grants, direct-mail income, industrial policy privileges, regulatory power, prosecutorial plunder, or political careers depend on keeping the public in a state of fear about global warming.
- Castigates former White House official Phil Cooney for editing U.S. government climate change policy documents, without ever considering the scientific merit of Cooney’s decisions to delete certain passages as “speculative.”
- Waxes enthusiastic about cellulosic ethanol, a product with no commercial application despite 30 years of government-funded research, and neglects to mention that corn-based ethanol, a product in commercial use for a century, is still more costly than regular gasoline despite oil prices exceeding \$70 a barrel.
- Misrepresents the major auto companies’ position in their lawsuit to overturn California’s CO₂ emissions law by neglecting to mention that CO₂ standards are *de facto* fuel economy standards and that federal law prohibits states from regulating fuel economy.
- Blames Detroit’s financial troubles on the Big Three’s high-volume production of sport utility vehicles, even though U.S. automakers probably would not exist today had they been “ahead of their time” and pushed hybrids during the 1990s, contrary to consumer demand. AIT says nothing about the biggest cause of Detroit’s falling capitalization—unaffordable payments for employee benefit packages negotiated decades ago.
- Touts Denmark’s wind farms without mentioning any of the well-known drawbacks of wind power: cost, intermittency, avian mortality, site depletion, and scenic degradation.

- Never addresses the obvious criticism that the Kyoto Protocol is all pain for no gain and that any policies far-reaching enough to noticeably slow warming would be a “cure” worse than the alleged disease.
- Claims a study by Robert Socolow and Stephen Pacala of Princeton University shows that “affordable” technologies could reduce U.S. carbon emissions below 1970 levels even though the authors specifically note that their study does not estimate costs. AIT also neglects to mention that Socolow and Pacala’s study is a response to a 2002 study by Martin Hoffert of New York University and 17 other energy experts who concluded that, “CO₂ is a combustion product vital to how civilization is powered; it cannot be regulated away.”

Misleading

- Implies that a two-page photograph of Perito Moreno Glacier in Argentina shows that the glacier is melting away, even though the glacier’s terminal boundary has not changed in 90 years.
- Implies that, during the past 650,000 years, changes in carbon dioxide levels preceded and largely caused changes in global temperature, whereas the causality mostly runs the other way, with CO₂ changes trailing global temperature changes by hundreds to thousands of years.
- Belittles as ideologically motivated the painstaking and now widely-accepted methodological critiques by Ross McKittrick of the University of Guelph in Ontario and Steve McIntyre of the Hockey Stick reconstruction of Northern Hemisphere climate history.
- Cites increases in insurance payments to victims of hurricanes, floods, drought, tornadoes, wildfires, and other natural disasters as evidence of a global warming-ravaged planet, even though the increases are chiefly due to socioeconomic factors such as population growth and development in high-risk coastal areas and cities.
- Distracts readers from the main hurricane problem facing the United States: the ever-growing concentration of population and wealth in vulnerable coastal regions, which is partly a consequence of federal flood insurance and other political subsidies.
- Ignores the societal factors—such as poverty—that typically overwhelm climatic factors in determining people’s risk of damage or death from hurricanes, floods, drought, tornadoes, wildfires, and disease.
- Implies that the 2006 tropical cyclone season in Australia was unusually active and, thus, symptomatic of global warming. In contrast, the National Oceanic and Atmospheric Administration (NOAA) describes the season as “near average.”
- Re-labels as “major floods,” a category defined by physical magnitude, a chart of “damaging floods,” a category defined by socioeconomic and political criteria.
- Re-labels as “major wildfires,” a category defined by physical magnitude, a chart of “recorded wildfires,” a category reflecting changes in data collection and reporting, such as increases in the frequency and scope of satellite monitoring.
- Conflates the Thermohaline Circulation (THC), a convective system primarily driven by differences in salinity and sea temperatures, with the Gulf Stream, a

- wind-driven system energized primarily by the Earth's spin and the lunar tides, exaggerating the risk of a big chill in Europe from a weakening of the THC.
- Presents a graph showing the number of annual closings of the Thames River tidal barriers from 1930 to the present, even though the modern barrier system was completed in 1982 and became operational in 1984. This apples-to-oranges comparison conveys the false impression that London faced no serious flood risk until recent decades.
 - Blames global warming for the decline “since the 1960s” of the emperor penguin population in Antarctica, implying that the penguins are in peril, their numbers dwindling as the world warms. In fact, the population declined in the 1970s and has been stable since the late 1980s.
 - Implies that a study finding that none of 928 science articles—actually abstracts—denied a CO₂-global warming link, shows that Gore's apocalyptic view of global warming is the “consensus” view among scientists.
 - Reports that 48 Nobel Prize-winning scientists accused President Bush of distorting science, without mentioning that the scientists acted as members of a “527” political advocacy group set up to promote John Kerry's 2004 campaign for president.
 - Implies that the United States is an environmental laggard because China has adopted more stringent fuel economy standards, glossing over China's horrendous air quality problems.

Exaggerated

- Exaggerates the certainty and hypes the importance of the alleged link between global warming and the frequency and severity of tropical storms.
- Hypes the importance of NOAA running out of names (21 per year) for Atlantic hurricanes in 2005, and the fact that some storms continued into December. The practice of naming storms only goes back to 1953, and hurricane detection capabilities have improved dramatically since the 1950s, so the “record” number of named storms in 2005 may be an artifact of the resulting data. Also, Atlantic hurricanes continued into December in several previous years including 1878, 1887, and 1888.
- Never explains why anyone should be alarmed about the current Arctic warming, considering that our stone-age ancestors survived—and likely benefited from—the much stronger and longer Arctic warming known as the Holocene Climate Optimum.
- Portrays the cracking of the Ward Hunt ice shelf in 2002 as a portent of doom, even though the shelf was merely a remnant of a much larger Arctic ice formation that had already lost 90 percent of its area during 1906-1982.
- Claims that polar bears “have been drowning in significant numbers,” but this is based on a single report that found four drowned polar bears in one month in one year, following an abrupt storm.
- Claims that global warming is creating “ecological niches” for “invasive alien species,” never mentioning other, more important factors such as increases in trade, tourism, and urban heat islands. For example, due to population growth, Berlin warmed twice as much during 1886-1898 as the United Nations

Intergovernmental Panel on Climate Change (IPCC) estimates the entire world warmed during the 20th century.

- Blames global warming for pine beetle infestations that likely have more to do with increased forest density and plain old mismanagement.
- Presents a graph suggesting that China's new fuel economy standards are almost 30 percent more stringent than the current U.S. standards. In fact, the Chinese standards are only about 5 percent more stringent.

Speculative

- Warns of impending water shortages in Asia due to global warming but does not check whether there is any correlation between global warming and Eurasian snow cover (there isn't). If Tibetan glaciers were to melt, that should increase water availability in the coming decades.
- Claims that CO₂ concentrations in the Holocene never rose above 300 parts per million (ppm) in pre-industrial times, and that the current level—380 ppm—is “way above” the range of natural variability. Proxy data (leaf stoma frequency) indicate that, in the early Holocene, CO₂ levels exceeded 330 ppm for centuries and reached 348 ppm.
- Claims that a Scripps Oceanography Institute study shows that ocean temperatures during the past 40 years are “way above the range of natural variability.” Proxy data indicate that the Atlantic Ocean off the West Coast of Africa was warmer than present during the Medieval Warm Period.
- Blames global warming for the record number of typhoons hitting Japan in 2004. Local meteorological conditions, not average global temperatures, determine the trajectory of particular storms, and data going back to 1950 show no correlation between North Pacific storm activity and global temperatures.
- Blames global warming for the record-breaking 37-inch downpour in Mumbai, India on July 26, 2005, even though there has been no trend in Mumbai rainfall for the month of July in 45 years.
- Blames global warming for recent floods in China's Sichuan and Shandong provinces, even though far more damaging floods struck those areas in the 19th and early 20th centuries.
- Blames global warming for the disappearance of Lake Chad, a phenomenon more likely stemming from a combination of regional climate variability and societal factors like population increase and overgrazing.
- Claims that global warming is drying out soils all over the world, whereas pan evaporation studies (which measure the rate of evaporation from open pans of water) indicate that, in general, the Earth's surface is becoming wetter.
- Presents one climate model's projection of increased U.S. drought as authoritative even though another leading model forecasts increased wetness. Climate model hydrology forecasts on regional scales are notoriously unreliable. Most of the United States, outside the Southwest, became wetter during 1925-2003.
- Blames global warming for the severe drought that hit the Amazon in 2005. However, RealClimate.Org, a web site set up to debunk global warming “skeptics,” concluded that it is not possible to link the drought to global warming.

- Warns of a positive feedback whereby carbon-induced warming melts tundra, releasing more CO₂ locked up in frozen soils. An alternative scenario is also plausible: The range of carbon-storing vegetation expands as tundra thaws.
- Claims that global warming endangers polar bears even though polar bear populations are increasing in Arctic areas where it is warming and declining in Arctic areas where it is cooling.
- Blames global warming for Alaska's "drunken trees"—trees rooted in previously frozen tundra, which sway in all directions as the ice melts—ignoring the possibly large role of the 1976 PDO shift.
- Blames rising CO₂ levels for recent declines in Arctic sea ice, ignoring the potentially large role of natural variability. AIT never mentions that wind pattern shifts may account for much of the observed changes in sea ice, or that the Canadian Arctic Archipelago had considerably less sea ice during the early Holocene.
- Warns that meltwater from Greenland could disrupt the Atlantic thermohaline circulation based on research indicating that a major disruption occurred 8,200 years ago when a giant ice dam burst in North America, allowing two lakes to drain rapidly into the sea. AIT does not mention that the lakes injected more than 100,000 cubic kilometers of freshwater into the sea, whereas Greenland ice melt contributes only a few hundred cubic kilometers a year.
- Warns that global warming is destroying coral reefs, even though today's main reef builders evolved and thrived during periods substantially warmer than the present.
- Warns that a doubling of pre-industrial CO₂ levels to 560 ppm will so acidify seawater that all optimal areas for coral reef construction will disappear by 2050. This is not plausible. Coral calcification rates have increased as ocean temperatures and CO₂ levels have risen, and today's main reef builders evolved and thrived during the Mesozoic Period, when atmospheric CO₂ levels hovered above 1,000 ppm for 150 million years and exceeded 2,000 ppm for several million years.
- Links global warming to toxic algae bloom outbreaks in the Baltic Sea that can be entirely explained by record-high phosphorus levels, record-low nitrogen-to-phosphorus levels, and local meteorological conditions.
- Asserts without evidence that global warming is causing more tick-borne disease (TBD). A 2004 study by Oxford University professor Sarah Randolph found no relationship between climate change and TBD in Europe.
- Blames global warming for the resurgence of malaria in Kenya, even though several studies have found no climate link and attribute the problem to decreased spraying of homes with DDT, anti-malarial drug resistance, and incompetent public health programs.
- Insinuates that global warming is a factor in the emergence of some 30 "new" diseases over the last three decades, but cites no supporting research or evidence.
- Blames global warming for the decline "since the 1960s" of the emperor penguin population in Antarctica based on a speculative assessment by two researchers that warm sea temperatures in the 1970s reduced the birds' main food source. An

equally plausible explanation is that Antarctic ecotourism, which became popular in the 1970s, disturbed the rookeries.

- Warns of “significant and alarming structural changes” in the submarine base of West Antarctic Ice Sheet (WAIS), but does not tell us what those changes are or why they are “significant and alarming.” The melting and retreat of the WAIS “grounding line” has been going on since the early Holocene. At the rate of retreat observed in the late 1990s, the WAIS should disappear in about 7,000 years.
- Warns that vertical water tunnels (“moulins”) are lubricating the Greenland Ice Sheet, increasing the risk that it will “slide” into the sea. Summertime glacier flow acceleration associated with moulins is tiny. Moulins in numbers equal to or surpassing those observed today probably occurred in the first half of the 20th century, when Greenland was as warm as or warmer than the past decade, with no major loss of grounded ice.
- Presents 10 pages of before-and-after “photographs” showing what 20 feet of sea level rise would do to the world’s major coastal communities. There is no credible evidence of an impending collapse of the great ice sheets. We do have fairly good data on ice mass balance changes and their effects on sea level. NASA scientist Jay Zwally and colleagues found a combined Greenland/Antarctica ice-loss-sea-level-rise equivalent of 0.05 mm per year during 1992-2002. At that rate, it would take a full millennium to raise sea level by just 5 cm.
- Forecasts an increase in U.S. renewable energy production during 1990-2030 more than twice that projected by the U.S. Energy Information Administration.

Wrong

- Claims that glaciologist Lonnie Thompson’s reconstruction of climate history proves the Medieval Warm Period was “tiny” compared to the warming observed in recent decades. It doesn’t. Four of Thompson’s six ice cores indicate the Medieval Warm Period was as warm as or warmer than any recent decade.
- Calls carbon dioxide the “most important greenhouse gas.” Water vapor is the leading contributor to the greenhouse effect.
- Claims that Venus is too hot and Mars too cold to support life due to differences in atmospheric CO₂ concentrations (they are nearly identical), rather than differences in atmospheric densities and distances from the Sun (both huge).
- Claims that scientists have validated the “hockey stick” reconstruction of Northern Hemisphere temperature history, according to which the 1990s were likely the warmest decade of the past millennium and 1998 the warmest year. It is now widely acknowledged that the hockey stick was built on a flawed methodology and inappropriate data. Scientists continue to debate whether the Medieval Warm period was warmer than recent decades.
- Assumes that CO₂ levels are increasing at roughly 1 percent annually. The actual rate is half that.
- Assumes a linear relationship between CO₂ levels and global temperatures, whereas the actual CO₂-warming effect is logarithmic, meaning that the next 100-ppm increase in CO₂ levels adds only half as much heat as the previous 100-ppm increase.

- Claims that the rate of global warming is accelerating, whereas the rate has been constant for the past 30 years—roughly 0.17°C per decade.
- Blames global warming for Europe’s killer heat wave of 2003—an event caused by an atmospheric circulation anomaly.
- Blames global warming for Hurricane Catarina, the first South Atlantic hurricane on record, which struck Brazil in 2004. Catarina formed not because the South Atlantic was unusually warm (sea temperatures were cooler than normal), but because the air was so much colder it produced the same kind of heat flux from the ocean that fuels hurricanes in warmer waters.
- Claims that 2004 set an all-time record for the number of tornadoes in the United States. Tornado frequency has not increased; rather, the detection of smaller tornadoes has increased. If we consider the tornadoes that have been detectable for many decades (category F-3 or greater), there actually has been a downward trend since 1950.
- Blames global warming for a “mass extinction crisis” that is not, in fact, occurring.
- Blames global warming for the rapid coast-to-coast spread of the West Nile virus. North America contains nearly all the climate types in the world—from hot, dry deserts to boreal forests to frigid tundra—a range that dwarfs any small alteration in temperature or precipitation that may be related to atmospheric CO₂ levels. The virus could not have spread so far so fast if it were climate-sensitive.
- Cites Tuvalu, Polynesia, as a place where rising sea levels force residents to evacuate their homes. In reality, sea levels at Tuvalu fell during the latter half of the 20th century and even during the 1990s, allegedly the warmest decade of the millennium.
- Claims that sea level rise could be many times larger and more rapid “depending on the choices we make or do not make now” concerning global warming. Not so. The most aggressive choice America could make now would be to join Europe in implementing the Kyoto Protocol. Assuming the science underpinning Kyoto is correct, the treaty would avert only 1 cm of sea level rise by 2050 and 2.5 cm by 2100.
- Accuses ExxonMobil of running a “disinformation campaign” designed to “reposition global warming as theory, rather than fact,” even though two clicks of the mouse reveal that ExxonMobil acknowledges global warming as a fact.
- Claims that President Bush hired Phil Cooney to “be in charge” of White House environmental policy. This must be a surprise to White House Council on Environmental Quality (CEQ) Chairman James Connaughton, who hired Cooney and was his boss at the CEQ.
- Claims that the European Union’s emission trading system (ETS) is working “effectively.” In fact, the ETS is not reducing emissions, will transfer an estimated £1.5 billion from British firms to competitors in countries with weaker controls, has enabled oil companies to profit at the expense of hospitals and schools, and has been an administrative nightmare for small firms.
- Claims U.S. firms won’t be able to sell American-made cars in China because Chinese fuel-economy standards are stricter, even though many U.S.-made cars meet the Chinese standards.

Conclusion. Vice President Gore calls global warming a “moral issue,” but for him it is a *moralizing* issue—a license to castigate political adversaries and blame America first for everything from hurricanes to floods to wildfires to tick-borne disease. Somehow Gore sees nothing immoral in the attempt to make fossil energy scarcer and more costly in a world where 1.6 billion people still have no access to electricity and billions more are too poor to own a car.

Nearly every significant statement that Vice President Gore makes regarding climate science and climate policy is either one sided, misleading, exaggerated, speculative, or wrong. In light of these numerous distortions, AIT is ill-suited to serve as a guide to climate science and climate policy for the American people.

Note: This is a brief overview of author Marlo Lewis’s critique of *An Inconvenient Truth*. For further documentation, please read his upcoming full-length monograph, “A Skeptic’s Guide to *An Inconvenient Truth*.”